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ABSTRACT

A short-term longitudinal study investigated the way parents come to perceive their infant's temperament as difficult, and to identify factors influencing parents' impression formation. Subjects were 40 middle and lower middle class breastfeeding mothers and their singleton newborns of 38 weeks gestation and 2500 grams birth weight. All mothers were ambulatory, responsible for "rooming-in" care, and had no histories of psychiatric or chronic physical illness. Multiple measures were employed to gather data during the infant's first week of life and again 7 weeks later. Findings from the newborn and second month periods are reported and future directions for research are pointed out. Concluding remarks assert that researchers should now begin to ask how and why parents derive their particular perceptions of their infants. (RH)

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MATERNAL AFFECTIVE-COGNITIVE PROCESSES IN THE PERCEPTION OF NEWBORN DIFFICULTNESS[1]

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The temperament constellation of irregularity, slow adaptability, negative withdrawal responses and frequent negative mood expressions has been interpreted as descriptive of difficult children in the New York longitudinal study (Thomas and Chess, 1977). For the younger age-group, the fussy, difficult to soothe and labile infant has been labelled 'difficult' (Bates, Freeland and Lounsbury (1979).

However, recently, the 'difficult infant' concept found itself in a crossfire of discussions on the basic theoretical assumptions of the temperament concept (Thomas, Chess and Korn, 1982; Plomin, 1982; Rothbart, 1982; Kagan, 1982; Bates, 1983; Carey, 1983). The interchange is mainly conducted in the measurement arena and revolves around the issue of what do parental reports of difficult infant temperament represent. The various empirical and theoretical contributions can be plotted along a 'discussion continuum' with the extremes represented by the opposite postulates that parental reports are valid reports of within child characteristics (Carey, 1983) or reflections of parental and not child attributes (Vaughn, Taraldson, Crichton and Egeland, 1981). A midpoint of this discussion continuum is the operational and additive model that parental reports comprise a subjective, an objective and a measurement error component (Bates and Bayles, 1984).

Unfortunately, the controversy has not only been fruitful and constructive but a similar polarisation as in the personal debate in the sixties and early seventies has become apparent (Berger, 1982). We feel this is due to:

1) A lack of explicit definition attempts for the term 'parent perception of infant temperament'. Negative connotations have been

assigned to the terms 'perception' and 'subjective', and they have equated with biased projections which we should only find in clinical populations (Thomas, Chess and Korn, 1982). In contrast, in the general and in the social psychology field social perception has a more accepted meaning which we have adopted: The active inference of psychological properties through various cues which are weighted in a complex information processing sequence to form an impression or cognitive representation.

2) Conceptualising parental perceptions of infant behaviour as information processing requires that we have evidence for cognitive processes. Evidence so far has relied on correlational relationships between parental (self-report) characteristics and parental reports of child behaviour (Sameroff, Seifer and Elias, 1982; Matheny and Wilson, 1984). However, the processes whereby parents derive to abstractions of infant temperament have hardly been studied. Yet, an understanding of these processes is central to the parent perception position.

3) A third reason for the current polarisation is that professionals (researchers) and parents' reports of child temperament have been explicitly separated and are treated like dichotic entities (e.g. in the literature as 'objective' and 'subjective' components). A review of infant research evidence (see St.James-Roberts and Wolke: A within the relationship conceptualisation of temperament) throws some doubt on the existence of an objective 'within the child' component or, alternatively, uniform measurement of this component has not been achieved yet (Plomin, 1982). We believe, that the abstraction process of how parents derive to descriptions of infant temperament is structurally equivalent to that of researchers or

clinicians. While the professional's data reduction and abstraction process is partly explicit (e.g. requirements for reports in scientific journals) parental information processing is implicit and little understood.

A new avenue could be opened by searching for origins and explanations of disagreements between different measures and measurement sources of difficult infant behaviour. In particular, we are interested

a) in the way parents derive to perceptions of their infants' difficultness;

b) which factors influence parents' impression formation.

A short term longitudinal study which provided relevant evidence is presented in the following.

Sample Studied

Subjects were 40 middle and lower middle class breast-feeding mothers and their singleton newborns of 38 weeks gestation and 2500 grammes birthweight. All mothers were ambulatory and responsible for 'rooming-in' care. Mothers had no histories of psychiatric or chronic physical illness. A range of obstetric backgrounds, including caesarian, lift-out forceps, rotation forceps and normal deliveries, is represented in the sample.

PROCEDURE USED

The assessment procedures used in the immediate postnatal period are listed in table 1.

Table 1 : Immediate Postnatal Period

Data source	Instrument	Postnatal Day of Measurement	Description of Instrument
1 *Researcher	Brazelton Neonatal Behavioral Assessment Scale (NBAS)	2	Researcher provides standard interactive environment: differences between infants reflect infant factors alone
2 *Researcher	NBAS	5	Assesses 30 minutes of behaviour
3 *Researcher	Observation of mother-infant interaction	4	Standardized 2.5 hour observation of feeding and non-feeding interactions. Assesses infant behaviours elicited by mother; sums infant and maternal factors
4 Nurse	Nurse Scale of Mother and Baby behaviour	4	Rating scale of infant behaviour during one 8 hour duty period
5 Mother	Mother and Baby Scale 1	4	Provides (i) diary counts and timings of specific behaviours over 24 hour period (ii) ratings of specific behaviours during same period (iii) general impressions ratings of temperamental characteristics since birth (iv) measures of feeding routines used by mothers

* Assessor(s) 'blind' to subjects' characteristics

Table 1 - continued

Data source	Instrument	Postnatal Day of Measurement	Description of Instrument
6 Mother	Mother and Baby Scale II	2	I Mother's pregnancy experience II Mother's delivery experience III Maternal feelings, attitudes and caretaking behaviour
7 Mother	Caretaking situation Interview	5	Social cognition based. I Reconstruction of thought processes, emotions, and action patterns in concrete 'salient' caretaking situations II Provides rating measures of maternal attributions (explanations) of newborns behaviour in standard caretaking situations; whether mothers view themselves, situational factors or baby disposition as the main influence on interactions

II. Follow-Up at 7 weeks

The mother-infant dyads were seen again 7 weeks later in the subjects' homes and the measures (5), (6) and (7) were repeated. Additionally, life-events and paternal caretaking participation were assessed in an interview. At this occasion, the father also completed the Temperament Impression Scale.

Important Results So Far

I. Newborn Period

1. There is significant but only low to moderate agreement between maternal and alternative measures of difficult infant behaviour. Different maternal measures show moderate to good agreement with each other. Mothers are systematic, internally reliable data sources (Wolke and St.James-Roberts, 1986).

2. Maternal reports of difficult infant behaviour are a function of her external monitoring of baby's crying and feeding behaviour (Maternal Diary MABSI) and her caretaking confidence in particular ($R = .88$, $p < 0.001$). None of the researchers or nurse measures of infant behaviour are independent predictors of maternal reports of newborn difficult behaviour.

3. The Caretaking Situation Interview is a useful tool for the investigation of mothers' perceptions of infant behaviour and maternal action decisions in concrete situations. The pattern of information processing identified (example situation: unsettledness during the night) is as follows: the mother who attributes the cause for her baby's onset of

crying to her own general lack of confidence in caretaking (mother-stable attribution) (B= .27) and less to her one-off lack of confidence (mother variable attribution) (B= .51) feels more insecure, tense and frustrated (B= .26) while trying to settle her baby. She experiences the situation as difficult to deal with (B= .56) and perceives her baby when she or he finally has settled down, as generally difficult to calm (baby-stable attribution) (R= .83, $p<0.001$).

II. 7 Weeks Follow-Up

1. Seven weeks later those infants rated as 'easy' or 'difficult' in the first week of life were not necessarily perceived in the same way at follow-up. The test/retest coefficients for the different rating scales of infant difficult behaviour were: 'Irregular/Unsettled' (r_{tt}= .33), 'Irritable during feeds' (r_{tt}= .34), 'Easiness' (r_{tt}= .35), and 'Regularity' (r_{tt}= .52). There is only low, however statistically significant, consistency in infant unsettled behaviour over the first months of life.

Maternal caretaking confidence appears to be a more stable characteristic in the first two months of life than infant behaviour. The test/retest coefficients were r_{tt}= .51 ($p<.01$) for the scale 'Inconfidence in caretaking' and r_{tt}= .60 ($p<.001$) for the scale 'Global Confidence and Coping' (TIS).

2. There was moderate to good convergence between maternal and paternal reports of infant behaviour ('Easiness': r= .64, $p<0.001$; 'Regularity': r= .65, $p<0.001$).

3. Maternal specific and global behaviour ratings of infant unsettledness are consistently well predicted by her attribution style

in the first week of life despite the fact that there is only low to moderate consistency over time in the individual scales of infant 'difficultness'. The mother who attributed the reason why her infant eventually stopped fussing or crying during a feeding situation in the first week of life to her baby (stable attribution) as being generally easy to calm, intervened quickly when baby was crying and needed to provide little tactile and vocal stimulation, is more likely to perceive her infant as 'easy' 7 weeks on. None of the professionals' (Researcher, Nurse) measures of infant difficult, alert or motor behaviour were significant independent predictors of maternal reports at 7 weeks.

4. Fathers rated their infants as easy at 2 months of age if their baby had few feeds during the night and if their partner was a confident caretaker who intervened immediately when baby was crying (as assessed in the first week of life). Baby's cuddliness as described by the mother was also related to paternal ratings of infant behaviour. Not even one newborn characteristic as recorded in Brazelton NBAS, observation or Nurse Scale had a significant univariate association to fathers' ratings. However, maternity blues post-natally ($r = .41$, $p < .01$) and bad health during the second half of pregnancy ($r = .36$, $p < .05$) were also negatively related to the paternal scale baby's 'easiness', but not independent of the maternal attribution of her caretaking confidence.

Fathers' ratings of the infant's difficultness reflect less early newborn behaviour as observed by researcher or nurse but empathy with maternal wellbeing, her descriptions of newborn behaviour and early maternal attributions. The maternal state and her explanations of infant behaviour serve as reference points for

fathers' descriptions of their infants 7 weeks later.

Future Directions

1. We believe that the investigation of parental cognitive-affective processes and their link to:

a) parental reports ('perceptions') and

b) parent behaviour;

will provide us with new insights in understanding infant behaviour and development (Russell, 1983).

Considerable effort has gone into describing infant and parent behaviour apart or together. In fact this means that we proceed at times as if the parent were at the same cognitive level as the infant (Goodnow, 1984). Both, common sense and social psychology tell us that we interpret what we see and that we behave accordingly. We should start asking how and why parents derive their particular perceptions of their infant.

2. What could be the possible advantages of an understanding of parent perceptions?

a) Infant socialization and behaviour development in western cultures takes place mainly within the family. Understanding parents as well as infants brings us closer to the understanding of transactions between both of them.

b) Parent perception might be a better predictor of infant behaviour development than researcher observations of the infant. Most of the future transactions and adaptations of the infant will take place within the parent-infant system. We believe parent perceptions are important contributors to parent-infant adaptation.

3. A third tentative proposition is that the multi-method multi-source approach can be considered as an operationalization of a Systems Theory of child development. For example, Papousek and Koester (1986) have argued recently that the two phenomena of continuity and discontinuity of development seem to co-exist satisfactorily. One of the basic principles of General Systems Theory states that the two seemingly incompatible tendencies, namely the maintenance of an 'equilibrated' or 'steady' state and a force directed towards adjustment or transformation are co-existing in a system's self-regulatory organization. If we adapt this heuristic principle to the study of child development it does suggest that a moderate degree of both, variability and consistency within a family system are functional attributes allowing both adaptability to new intra- or extra-system demands but also predictability and the development of styles of transactions between system members. Translated to the operational, the measurement level we believe that moderate disagreements between maternal and alternate accounts are functional.

Either, persistently, large discrepancies between researcher and parent measures, or complete agreement might be indicative of non-functionality and possible maladaption of the parent-infant system. Both a multi-method multi-source approach and the study of parental information processing is more likely and realistic to cover the complexity of early infant development. Indeed, this approach is very similar to the clinicians everyday practice (Carey, 1983).

4. We are only able to understand parents' information processing and actions if we (researchers) do understand our motives, beliefs values, perceptions, attributions and abstractions in the

search for infant temperament. What perspective do different researchers take? What 'beliefs' (theories) determine their means ('research instruments')? How do they abstract (select cluster and weigh) their specific behaviour information, etc? We believe that the researcher's abstraction process is structurally equivalent to that of parents.

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